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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,686	08/11/2005	Satoshi Iyanagi	122653	7997

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EXAMINER	
KNABLE, GEOFFREY L	
ART UNIT	PAPER NUMBER
1791	
MAIL DATE	DELIVERY MODE
12/24/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/523,686	IYANAGI ET AL.	
	Examiner	Art Unit	
	Geoffrey L. Knable	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) *17-21* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16 and 18-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/3/05;3/15/06;8/15/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. Applicant's election with traverse of species I, claims 1-16 and 22-30 in the reply filed on 7/25/2008 is acknowledged. The traversal is on the ground(s) that a complete evaluation of whether the species relate to a single inventive concept cannot be determined until the examiner explains how Mallory applies against the claims and that the claims are sufficiently related that a search can be made without serious burden. This is not found persuasive because the application of Mallory against claim 1, representing the common technical feature between the species, will be detailed in the rejections to follow. Further, the art related to drums having a single core body, as opposed to art directed to two core bodies, are sufficiently distinct that the search and examination burden to examine both would represent a serious burden.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 17-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 7/25/2008.

3. Claims 1-16 and 22-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, lines 1-2, it is described that the bead lock means are adapted to be displaced towards/away from each other "and thereby expanded or contracted". It is not clear what is meant by "expanded/contracted" in this context. In particular, these lines seem to imply that the direction of expansion/contraction is "axially" whereas the term

expansion/contraction, as it relates to bead lock means, normally refers to a "radial" expansion/contraction. Clarification of this apparent inconsistency is required.

In claim 1, line 6, it is not entirely clear what "sheets" of rigid support members requires. In other words, it is not clear that the scope of this requirement can be readily ascertained, the term "sheets" in this context not representing standard or typical terminology.

Claim 4 defines means for varying an axial position of the bead locks "relative to an axial side portion" of the center bladder. The specification however defines that the bladder side portions are displaced integrally with the bead lock means (note last sentence in paragraph [0093] on page 21). Clarification is required of this apparent contradiction.

Also, in claim 4, line 2, the antecedent for "that" bead lock is not readily ascertainable.

In claim 4, line 3, no antecedent has been established for "said center bladder".

In claim 10, line 2, no antecedent has been established for "said screw blocks".

In line 3 of claims 10, 11, 14 and 15, it is not clear what is meant by the reference to "by circumferential convex and concave".

In claim 25, lines 3-4, no antecedent has been established for "the bead cores" or "the carcass band side portions".

In claim 26, lines 3-4, it seems that referencing displacing "to" an axial center is incorrect as it does not appear that the bead locks actually reach the center. It seems

that "to" should be "towards" for example. Also, in lines 3-5 of claim 26, it is not clear how displacing the bead locks axially functions to start folding back of the carcass sides.

In claim 27, no antecedent has been established for "said folding back rollers".

In claim 29, lines 2-3, no antecedent has been established for "said center bladder". In claim 29, lines 2-3, it is not clear how the pressure can be reduced "as the bladder is pressurized" - clarification of this apparent inconsistency is required.

In claim 30, line 5, no antecedent has been established for "the center bladder".

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Mallory (US 4,007,081).

Mallory discloses a tire building drum including a pair of bead locks (134) that can be expanded and contracted, as well as movable towards and away from each other (e.g. see figs. 18-21), carcass band folding back means (226) and a center shaft (34). Further, the drum includes a core body (e.g. 45) axially inside the bead locks and including plural sheet like members toroidally disposed and adapted to be expanded/contracted (e.g. fig. 3). Mallory therefore anticipates claim 1. As to claim 2, note bladder (216) whose ends are movable axially with the bead locks and the comb type engagement of the drums pieces (e.g. figs. 3-6). As to claim 3, the bead locks are connected to axially movable pistons (136) through links. As to claim 4, this claim is read consistent with the specification in which the bead locks are integrally movable with the bladder ends, Mallory suggesting such movement means (164 etc.).

8. Claims 5-7, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mallory (US 4,007,081) as applied above, and further in view of DE 2124978 to Gazuit and Gutknecht et al. (US 6,318,434).

As to claims 5-6, Mallory uses carcass folding means in the form of a bladder. It however is known in similar configured drums to utilize axially movable folding back arms instead of bladders to effect the carcass folding operation - note arms "52" in DE '978. Utilizing hinged arms to effect the folding would therefore have been an obvious

alternative. Further, to ensure that there is complete contact of the tire side with a roller during its entire movement path, it would have been obvious to utilize pairs of offset and overlapping rollers as well as hinged intermediate parts - e.g. fig. 5 and col. 1 of Gutknecht et al. As to claim 7, as at least some friction would be present, there would be at least some level of speed restriction. As to claims 23-24, the arms move radially outward with axially inward movement to press the carcass sides against the center parts thereof.

9. Claims 8-16, 25, 26, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mallory (US 4,007,081) (or for claim 27 only, further in view of DE 2124978 to Gazuit and Gutknecht et al. (US 6,318,434)) as applied above, and further in view of Gazuit (US 3,767,509) or GB 1524369 to Gazuit.

As to claim 8, Mallory includes links (82) coupled at opposite ends to the rigid core members and axially movable sleeves (84). The links are not however hinged to each other. Gazuit '509 and GB '369 to Gazuit are also directed to tire building drums including central expandable core bodies supported by hinged arms moved by axially movable sleeves and in particular indicate an understanding that a known suitable and effective arm configuration to expand the drum is to hinge the arms to one another (note the figures in each reference) - providing arms hinged to one another would therefore have been an obvious alternative operable arm configuration for only the expected and predictable results.

As to claims 9 and 13, Mallory provides sliders (106) having the bead locks mounted thereon and movable by the opposite screw portions of shaft (156). Further,

the core bodies are also moved in part by the same oppositely threaded screw parts/screw blocks. Additionally, oppositely threaded screw portions (174/176) also cooperate with driving means for the core bodies. As to claim 10-12 and 14-16, the screws are connected and rotated/restrained together. As to the "convex and concave" language, as already noted, it is not clear what is meant by this but any differences from the Mallory configuration would have been obvious alternatives - note esp. that the sleeves circumferentially surround the shaft, it not being clear that anything more is required. As to claims 25-26, the core body is radially expanded to at least a position where it is opposed to the bead cores and thereafter the bead locks are axially displaced (e.g. fig. 19/20). As to claim 27, the carcass would at least in part be supported by sides of the core bodies during turnup. As to claim 29, it is not entirely clear what this claim is requiring as already noted in the 35 USC 112 rejection. In any event, Mallory reduces pressure ultimately. As to claim 30, the control of pressure/tension suggested at col. 7, lines 39-44 would seem to suggest or render obvious control based on a desired value of a load.

10. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mallory (US 4,007,081) as applied to claim 1 above, and further in view of Frazier et al. (US 3,684,621) and Irie (US 4,468,267).

As to claim 22, Mallory discloses locking the bead cores (e.g. fig. 12), bulging a center portion (e.g. fig. 19-20), folding side portions of the carcass (fig. 23), radially expanding the core body and assembling tire component members thereon (fig. 22).

Mallory therefore teaches a process as claimed except that the folding back of the carcass around the beads seems to occur after full expansion of the core body.

Frazier is directed to a similar drum configuration as Mallory and in particular, suggest a process in which the turnup occurs after an initial partial expansion of the drum (fig. 2a; col. 5, lines 6-42), this being followed by expansion of the drum to the maximum diameter. In similar fashion, Irie discloses a process in which the turnup occurs after an initial bulging of the center portion of the carcass, followed by later full toroidal expansion (esp. figs. 9c-9h). In view of these teachings of known suitable and effective processes of tire formation, including even with use of a drum very similar to that of Mallory, it would have been an obvious alternative to fold back the carcass ends around the beads after an initial partial drum expansion rather than after the full expansion for only the expected and predictable results.

11. Claim 28 rejected under 35 U.S.C. 103(a) as being unpatentable over Mallory (US 4,007,081) as applied above, and further in view of Gazuit (US 3,767,509) or GB 1524369 to Gazuit as applied to claim 25 above, and further in view of Stevens (US 2,605,197).

Stitching tire components during building is well known and obvious in this art, it also being known and obvious to knurl the stitcher roller surface to help avoid slipping (e.g. col. 7, lines 46-50 of Stevens).

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey L. Knable whose telephone number is 571-272-1220. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Geoffrey L. Knable/
Primary Examiner, Art Unit 1791

G. Knable
December 20, 2008